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09/451,628	11/30/1999	AVI TEPMAN	AMAT/4285/MD	9301

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EXAMINER

ALEJANDRO MULERO, LUZ L

ART UNIT	PAPER NUMBER
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1763

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DATE MAILED: 04/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/451,628

Applicant(s)

TEPMAN ET AL.

Examiner

Luz L. Alejandro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 March 2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3, 6, 8, 11-16, 18-22, 28 and 29 is/are pending in the application.

4a) Of the above claim(s) 2, 3 and 6 is/are withdrawn from consideration.

- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 8, 11-16, 18-22, 28 and 29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

By applicants request and for applicants convenience a supplemental final rejection is described below. The time period for response to the final rejection is re-started as of the mailing of the instant office action.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1, 11, 13-16, 18-20, and 28-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Rubin et al., U.S. Patent 4,852,516.

Rubin et al. shows the invention as claimed including a multi-chamber apparatus for processing substrates including initial load lock chamber for storage 102 (see fig. 7) connected to a multitude of process chambers 100 each chamber including a modular plumbing tray 172 (see fig. 1) and a chamber tray including links which include water lines, gas lines, vacuum lines, drain lines, and communication lines (see col. 3, line 65 to col. 8-line 60). Furthermore, note that any of the individual process chambers 100 of

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Rubin et al. can be considered a "transfer chamber" since the wafer is physically being moved from one side to the other.

With respect to claim 28, note from fig. 1 that the chamber tray and the process chamber form a modular unit. Regarding claim 11, note that the corner post 106 of adjacent chambers are at the access ports (see fig. 7). Furthermore, with respect to claim 13, the process chamber and the chamber tray are mounted to a support frame which includes all the chambers (see fig. 7). With respect to claim 14, note that the support frame includes rollable support members 110 for each chamber (see fig. 1). Regarding claim 16, note that the facility connections (water lines, gas lines, vacuum lines, drain lines, and communication lines) are in fluid communication with the facility connection of the plumbing tray 172 (see fig. 1). Furthermore, with respect to claims 18-20, note that the claimed robot transfer mechanism 180 is clearly shown in fig. 7. With respect to claim 29, note in fig. 1 that the plumbing tray 172 is directly underneath the processing/transfer chamber 100.

Claims 1, 11, 13-16, 18, and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Lei et al., U.S. Patent 6,083,321.

Lei et al. shows the invention as claimed including a transfer chamber 90; a modular plumbing tray 10 adjacent the transfer chamber and having connections from the facility to the process chambers 30; and a chamber tray adjacent the one or more of the process chambers including an injection control valve 18, the chamber tray having facility connections connected to one or more of the facility connections in the plumbing

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tray (see figs. 2-3 and col. 3-line 8 to col. 5-line 60). Note that there are various manifold configurations clearly shown in fig. 3 and that the gas delivery system 10 can be rigidly mounted to the process chamber 30 on a common module support frame 50. In addition, components of the gas delivery system are listed in col. 4, lines 48-58 and may include pumps and gas supplied and the respective plumbing required.

With respect to claim 28, note that in col. 1, lines 5-9, the reference clearly states that the apparatus is a modular system design. Regarding claim 11, note that fig. 2 clearly shows the modular unit mounted to the transfer chamber at the access port. Furthermore, with respect to claim 13, the process chamber and the chamber tray are mounted to a support frame which includes all the chambers (see fig. 2). With respect to claim 14, note that the support frame includes rollable support members 52 for each chamber (see fig. 2). Furthermore, with respect to claim 18 it is inherent that the apparatus further comprises the claimed transfer mechanism in order to transport the substrate.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lei et al., U.S. Patent 6,083,321.

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Lei et al. is applied as above but lack explicit anticipation of a transfer chamber containing six access ports. However, Lei et al. describe a multitude of access ports connecting the process chambers and the transfer chamber as described above. In view of this disclosure, it would have been obvious to one of ordinary skill in the art at the time the invention was made to form at least six access ports in the transfer chamber of Lei et al. depending upon the particular process flow being conducted.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lei et al., U.S. Patent 6,083,321.

Lei et al. is applied as above but lacks anticipation of the chamber tray mounted separately to the transfer chamber. Lei et al. discloses a variety of configurations of the gas delivery system 10 which includes both the plumbing and chamber trays and how they are mounted (see col. 4, lines 8-40). In view of this disclosure, it would have been obvious to one having ordinary skill in the art at the time the invention was made to mount the chamber tray to the transfer chamber based upon a preferred design choice.

Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rubin et al., U.S. Patent 4,852,516.

Rubin et al. is applied as above but lacks anticipation of the particular wafer handling means including a lift and a pedestal. In response, the examiner takes official notice that these are well known types of wafer handling techniques and would have been obvious to implement in the primary reference of Rubin et al.

***Response to Arguments***

Applicant's arguments filed 3-12-02 have been fully considered but they are not persuasive. Applicant argues that the amendment to the claims stating that the transfer chamber has one or more access ports distinguishes over the references. However, inherently any transfer chamber will have at least one access port to allow the wafer to be inserted and withdrawn from the chamber.

With respect to the Lei et al. reference, applicant argues that the plumbing tray as claimed is not shown. The discussion of the plumbing tray limitation with respect to the Lei et al. reference was clearly stated in the advisory action mailed 12-3-01, but for applicants convenience it read as follow: "With respect to Lei et al., the reference teaches that the gas delivery system uses gas lines which are only about three feet at most (see col. 3, lines 57-61). Based on this discussion, inherently the plumbing tray will be disposed "adjacent" the processing chambers. Applicant is reminded that "adjacent" is a broad term and it is proper to interpret the word "adjacent" in its most broadest and reasonable sense. "

As properly stated by applicant, the Maher et al. reference was improperly applied and that rejection has been summarily withdrawn.

With respect to the argument with respect to the taking of official notice, such notice was taken in the office action mailed on 9-27-00 and never challenged. According to the MPEP, failure to seasonably challenge official notice results in the limitations being considered prior art (see MPEP 2144.03).

***Conclusion***

This office action has been made merely for applicants convenience and better understanding of the last final office action mailed on 1/14/02. Therefore, **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lei et al., WO 99/03137 is an equivalent of Lei et al., U.S. Patent 6,083,321, and was published prior to the effective filing date of the instant application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luz L. Alejandro whose telephone number is 703-305-4545. The examiner can normally be reached on Monday to Thursday from 7:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory L. Mills can be reached on 703-308-1633. The fax phone numbers



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for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



LLAM

April 16, 2002

  
GREGORY MILLS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700